

**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matter of	)	
	)	
Carrier Current Systems, including Broadband over Power Line Systems	)	ET Docket No. 03-104
	)	
Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems	)	ET Docket No. 04-37
	)	

**OPPOSITION OF THE HOMEPLUG POWERLINE ALLIANCE TO THE  
PETITIONS FOR RECONSIDERATION OF AERONAUTICAL RADIO, INC.  
AND THE AMERICAN RADIO RELAY LEAGUE**

The HomePlug® Powerline Alliance (“HomePlug”), pursuant to Section 1.429(f) of the Commission’s Rules,<sup>1</sup> hereby submits its Opposition to the Petitions for Reconsideration filed by Aeronautical Radio, Inc. (“ARINC”) and ARRL, the National Association for Amateur Radio (“ARRL”).<sup>2</sup>

ARINC and ARRL seek changes to the Commission’s decisions in its *Report and Order* in the above-captioned proceedings.<sup>3</sup> ARINC requests that the Commission extend the ban on use of specific Aeronautical Mobile and Aeronautical Navigational frequencies to low-voltage and In-House BPL systems, a position specifically rejected by the Commission in the *Report and Order*. Joined by the ARRL, ARINC also asks the

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<sup>1</sup> 47 C.F.R. § 1.429(f).

<sup>2</sup> See Petition for Reconsideration of Aeronautical Radio, Inc., (filed February 7, 2005) (“ARINC Petition”); Petition for Reconsideration of ARRL, the National Association for Amateur Radio (filed February 7, 2005) (“ARRL Petition”); *Public Notice*, Report No. 2694 (Correction), 70 FR 11244 (March 8, 2005).

<sup>3</sup> *Carrier Current Systems, including Broadband over Power Line Systems; Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems*, ET Docket Nos. 03-104 and 04-37, *Report and Order*, 19 FCC Rcd 21265 (2004) (“*Report and Order*”).

Commission to change its decision to leave in place its rule prescribing a 40dB/decade extrapolation factor for use in radiated power measurements. In making these requests for reconsideration, ARINC and ARRL repeat arguments they made in the comment phase of this proceeding and do not provide any new, valid information to justify reconsideration. If accepted, their proposals would unnecessarily hinder the deployment and use of Access and In-Home equipment across the nation. Experience with HomePlug devices demonstrates that the current rules minimize any potential interference to licensed radio operations from HomePlug and HomePlug-type devices.

## **BACKGROUND**

The HomePlug Powerline Alliance promotes cost effective and interoperable standards for devices that communicate through a home's electric power wires, transforming each home power outlet into a network connection as well as an electrical connection. HomePlug is the leading representative for In-House BPL products and technology, both domestically and internationally.<sup>4</sup> Its member companies from the semiconductor, electronics manufacturing, retail distribution and service provision industries are committed to creating and promoting networks based on existing In-House power line infrastructure without causing interference to licensed radio operations.

The HomePlug 1.0 specification, introduced in 2000, is used to interconnect a variety of products, such as connecting computers to printers and other peripheral devices. A network using today's products can transmit data at up to 14 Mbps between

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<sup>4</sup> See the list of members maintained at: <http://www.homeplug.org/en/about/members.asp> (visited March 23, 2005).

outlets with no effect on the electric service in the home. All of the devices individually interoperate and provide networking benefits to users.

Home Plug announced its selection of technology for the HomePlug AV specification in January, 2004. This new specification is designed to distribute multistream entertainment and data throughout the home, including audio and high definition video. Products are expected to enter the market later this year.<sup>5</sup>

HomePlug filed comments in this proceeding,<sup>6</sup> and its standard for In-House BPL equipment is used by about 2 million units in service world-wide. In addition, HomePlug continues to work on enhancing power line networking to enable multimedia content delivery (HomePlug AV) and access BPL technology.

#### **ARINC OFFERS NO JUSTIFICATION FOR EXCLUDING FREQUENCIES**

In its Petition, ARINC seeks reconsideration of the Commission's decisions in the *Report and Order* not to prohibit In-House BPL systems from utilizing the Aeronautical Mobile (R) frequencies and the Aeronautical Navigational frequencies 74.8–75.2 MHz.<sup>7</sup> In support of its request to exclude these frequencies from operations by In-House BPL systems, ARINC reiterates information that it already had submitted in this proceeding and which the Commission considered in its *Report and Order*.<sup>8</sup>

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<sup>5</sup> See *HomePlug Alliance Showcases HomePlug AV Technology at CeBIT 2005* (press release dated March 7, 2005) at: <http://www.homeplug.org/en/news/press030705.asp> (visited March 23, 2005).

<sup>6</sup> See Comments of HomePlug Powerline Alliance (filed May 3, 2004).

<sup>7</sup> The HomePlug and HomePlug AV standards use frequencies in the 4 - 28 MHz range.

<sup>8</sup> See *ARINC Petition* at 3-5; *Report and Order* at ¶¶ 54-60, n.114; Reply Comments of Aeronautical Radio, Inc. (filed July 22, 2004) (“*ARINC NPRM Reply Comments*”) at 8 and Attach. C.

It is troubling that ARINC continues to reiterate a complaint of interference at a single site where it even admits that the interference has been mitigated. We also note that the Commission investigated interference at this same site.<sup>9</sup> In its Petition, ARINC states that “it is now apparent that In-House BPL could prove to be an especially vexing problem...” and alleges that carrier current devices “...appear to have been responsible for the interference documented in ARINC’s Reply Comments in this proceeding.” Nevertheless ARINC then admits that the interference has “subsequently been largely mitigated with the cooperation of the Commission....”<sup>10</sup> Previously, the Commission’s Enforcement Bureau reported that ARINC’s claims in this matter were traced to a source other than a carrier current system and that the interference may have been caused by ARINC’s own equipment. Whatever the facts, given that the frequency is well below that used by HomePlug devices, it is clear that the problem did not involve HomePlug equipment. Resolution of the interference also demonstrates that the current rules are very adequate to protect licensed operations.

HomePlug and its members take very seriously their obligations to develop In-House BPL equipment that does not cause harmful interference with licensed radio operations—especially radio frequencies involving safety of life, but also amateur radio frequencies. The decisions that the Commission adopted in the *Report and Order* provide effective protection to all licensed radio operations. The Commission should

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<sup>9</sup> Memorandum from Joseph P. Casey, Chief, Spectrum Enforcement Division, FCC Enforcement Bureau to Bruce A. Franca, Deputy Chief, FCC Office of Engineering and Technology dated 27 January 2004, placed in the public files of ET Docket No. 04-37 on April 1, 2004.

<sup>10</sup> See *ARINC Petition* at 4 and n.7.

deny ARINC's requests because ARINC provides no evidence that interference is or will be caused by In-House BPL systems and detrimentally affect ARINC's operations.

### **NO CHANGE TO THE COMMISSION'S EXTRAPOLATION FACTOR IS JUSTIFIED**

ARINC and ARRL also seek reconsideration of the Commission's decision to not amend its rules that provide for using a 40dB/decade extrapolation factor in power measurements.<sup>11</sup> However, both parties fail to provide valid evidence that would justify the Commission changing its decision.

Both ARINC and ARRL rely upon modeling efforts and do not attempt to validate the model against actual measurements to show that the model produces valid results. They also both use low voltage power lines that are extremely long compared to the relatively short lines found in most typical neighborhoods. While ARINC attempts to provide some engineering analysis in its Petition to support its claim that a different extrapolation factor should be required, we note that the analysis is prepared by an in-house ARINC engineer and draws conclusions regarding interference caused by low voltage lines carrying BPL signals using a theoretical 2000 foot medium voltage transmission line as a model.<sup>12</sup> There are few, if any low-voltage segments in the United States that are anywhere near the 2,000 feet used in ARINC's model, and most importantly, it is technically inaccurate even to attempt to extrapolate the impact of low-voltage lines from such results. ARRL's submission is substantially similar. Their

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<sup>11</sup> See 47 C.F.R. § 15.31(f)(2).

<sup>12</sup> See *ARINC Petition* at 6-8 and App. A ("Broadband Over Power Lines (BPL) Interference Analysis," prepared by Joe Fox of ARINC Engineering Services, L.L.C.).

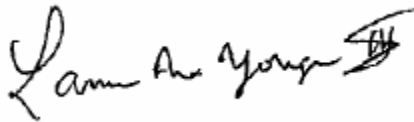
arguments do not justify the Commission revisiting the issue.<sup>13</sup> ARINC and ARRL clearly have failed to justify their requested change, and the Commission's rules should continue unchanged. Our members' experience in the real world confirms that using the 40dB factor for HomePlug devices protects against harmful interference.

The Commission wisely decided not to change the existing Part 15 distance extrapolation factors. These factors successfully protect against the potential for harmful interference, as evidenced by the successful coexistence of more than 2 million HomePlug devices without interference complaints. No information in the ARINC and ARRL Petitions justify a change now. HomePlug therefore urges the Commission to reaffirm its earlier decisions and deny ARINC's and ARRL's requested changes.

## CONCLUSION

HomePlug respectfully requests the Commission to deny ARINC's and ARRL's Petitions for Reconsideration, as discussed above. Both parties fail to provide any new information or data that justifies changing the decisions that the Commission adopted in the *Report and Order*.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Lawrence W. Yonge III", with a stylized flourish at the end.

Lawrence W. Yonge III  
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HomePlug Powerline Alliance  
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March 23, 2005

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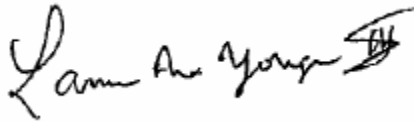
<sup>13</sup> See *Report and Order* at ¶ 109.

### **CERTIFICATE OF SERVICE**

I hereby certify that on this 23rd day of March, 2005, I caused a true and correct copy of the foregoing Opposition of the HomePlug Powerline Alliance to the Petitions for Reconsideration of Aeronautical Radio, Inc. and the American Radio Relay League to be served, via U.S. first-class mail, to:

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A handwritten signature in black ink, appearing to read "Lawrence W. Yonge III", with a stylized flourish at the end.

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Lawrence W. Yonge, III